

WHAT IS CLAIMED IS:

1. A method for reconfiguring a radio channel configuration associated with a mobile radio, comprising:

establishing a first connection service for the mobile radio associated with a

5 first transport format parameter;

configuring the radio channel configuration for the first connection service using the first transport format parameter and a rate matching parameter;

thereafter, adding a second connection service for the mobile radio associated with a second transport format parameter; and

10 reconfiguring the radio channel configuration to include the second connection service without reconfiguring the first transport format parameter.

2. The method in claim 1, wherein the reconfiguring uses one or more rate matching parameters and includes configuring the second transport format parameter.

3. The method in claim 1, wherein the first and second transport format parameters correspond to first and second transport format sets that specify plural
15 available transport formats for transporting data over the radio channel.

4. The method in claim 1, further comprising:
mapping the first connection service to one or more first transport channels;
mapping the second connection service to one or more second transport

20 channels; and

multiplexing the first and second transport channels onto the physical radio channel.

5. The method in claim 4, wherein each transport channel includes a transport format parameter and a rate matching attribute, the method further comprising:

25 using a rate matching algorithm to control an amount of data sent over the radio channel per unit time from each transport channel based on the rate matching attribute and the transport format parameter associated with each transport channel.

6. The method in claim 1, further comprising:

using a rate matching algorithm to control an amount of data sent over the radio channel per unit time for each of the first and second connection services based on rate matching attributes and transport format parameters associated with the first and second connection services.

7. The method in claim 1, further comprising:

modifying one of the first and second connection services, and
configuring one or more rate matching parameters for the radio channel configuration independently of one of the first and second transport format parameters corresponding to the other of the first and second connection services.

8. The method in claim 7, wherein the modifying includes releasing the one connection service.

9. The method in claim 7, wherein the radio channel is a first type of radio channel, and the modifying includes changing the radio channel to a second type of radio channel.

10. The method in claim 1, wherein the first connection service is one of a voice service and a packet data service, and the second connection service is the other.

11. A method for use in a UMTS communications system including a radio access network (RAN) for supporting a connection with a user equipment (UE) over a radio interface, comprising:

sending a first setup message associated with the connection to establish a first radio access bearer between the RAN and the UE, the first setup message including one or more first transport format parameters and one or more first rate parameters, and
sending a second setup message associated with the connection to establish a second radio access bearer between the RAN and the UE, the second setup message including one or more second transport format parameters, the one or more first rate parameters, and one or more second rate parameters,

wherein the first and second rate parameters are reconfigured in response to the second setup message without having to reconfigure the first transport format parameter.

12. The method in claim 11, wherein the first and second transport format parameters and the first and second rate parameters are part of an Added or Reconfigured Transport Channel information element included in the second setup message, and

wherein the first and second rate parameters may be reconfigured independently from the first and second transport format parameters, respectively.

13. The method in claim 11, wherein the first rate matching parameter is part of a Reconfigured Transport Channel Rate Matching Attribute information element included in the second setup message, and

wherein the second transport format parameter and the second rate parameter are part of an Added or Reconfigured Transport Channel information element included in the second setup message.

14. The method in claim 11, wherein the first and second transport format parameters correspond to first and second transport format sets that specify plural available transport formats for transporting data over a radio channel.

15. The method in claim 11, further comprising:
mapping the first radio access bearer to one or more first transport channels;
mapping the second radio access bearer to one or more second transport channels; and
multiplexing the first and second transport channels onto the physical radio channel.

16. A method for use in configuring a connection with a mobile radio over a radio channel, comprising:
establishing the connection with the mobile radio using a configuration of the radio channel which specifies a first transport format;

sending a message that will involve reconfiguring the radio channel configuration;

determining that one or more rate matching parameters must be configured as a result of the reconfiguration; and

5 configuring the one or more rate matching parameters without having to configure the first transport format.

17. The method in claim 16, wherein the reconfiguration results from a new service for the connection that includes a second transport format.

10 18. The method in claim 16, wherein the reconfiguration results from one of plural services for the connection being removed.

19. The method in claim 16, wherein the reconfiguration results from some aspect of the radio channel configuration being modified.

20. The method in claim 19, wherein the modified aspect is a rate of the radio channel being changed.

15 21. The method in claim 16, further comprising:
using a rate matching algorithm to control an amount of data sent over the reconfigured radio channel per unit time based on one or more reconfigured rate matching parameters and one or more transport formats.

20 22. A mobile user equipment terminal for use in a mobile radio communications system, comprising:

radio processing circuitry for sending and receiving signals over a radio interface, and

control circuitry, coupled to the radio processing circuitry, configured to:
establish a connection over a radio channel using the radio
25 processing circuitry, where the radio channel has a first configuration which specifies a first transport format;

detect a need for a reconfiguration of the radio channel configuration;

determine that one or more rate matching parameters must be configured as a result of the reconfiguration; and

5 configure the one or more rate matching parameters without having to configure the first transport format.

23. The mobile user equipment terminal in claim 22, wherein the reconfiguration results from a new service for the connection that includes a second transport format.

10 24. The mobile user equipment terminal in claim 22, wherein the reconfiguration results from one of plural services for the connection being removed.

25. The mobile user equipment terminal in claim 22, wherein the reconfiguration results from some aspect of the radio channel configuration being modified.

15 26. The mobile user equipment terminal in claim 25, wherein the modified aspect is a rate of the radio channel being changed.

27. The mobile user equipment terminal in claim 22, the control circuitry being further configured to use a rate matching algorithm to control an amount of data sent over the reconfigured radio channel per unit time based on the configured rate matching parameters and the first transport format.

28. The mobile user equipment in claim 22, wherein the one or more rate matching parameters correspond to one or more rate matching attributes, and the first transport format includes a first transport format set that specifies plural available transport formats for transporting data over the radio channel.

25 29. A radio network for use in a mobile radio communications system, comprising:

radio processing circuitry for sending and receiving signals over a radio interface, and

control circuitry configured to:

establish a connection over a radio channel using the radio processing circuitry, where the radio channel has a first configuration which specifies a first transport format;

detect a need for a reconfiguration of the radio channel configuration;

determine that one or more rate matching parameters must be configured as a result of the reconfiguration; and

configure the one or more rate matching parameters without having to configure the first transport format.

30. The radio network in claim 29, wherein the reconfiguration results from a new service for the connection that includes a second transport format.

31. The radio network in claim 29, wherein the reconfiguration results from one of plural services for the connection being removed.

32. The radio network in claim 29, wherein the reconfiguration results from some aspect of the radio channel configuration being modified.

33. The radio network in claim 32, wherein the modified aspect is a rate of the radio channel being changed.

34. The radio network in claim 29, the control circuitry being further configured to use a rate matching algorithm to control an amount of data sent over the reconfigured radio channel per unit time based on the configured rate matching parameters and the first transport format.

35. The radio network in claim 29, wherein the one or more rate matching parameters correspond to one or more rate matching attributes, and the first

transport format includes a first transport format set that specifies plural available transport formats for transporting data over the radio channel.

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